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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,666	02/14/2002	Huy M. Nguyen	RB1-041US	1711
29150	7590	02/19/2004	EXAMINER	
LEE & HAYES, PLLC 421 W. RIVERSIDE AVE, STE 500 SPOKANE, WA 99201			CUNNINGHAM, TERRY D	
			ART UNIT	PAPER NUMBER
			2816	
DATE MAILED: 02/19/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

K.D

<b>Office Action Summary</b>	<b>Applicati n No.</b> 10/076,666	<b>Applicant(s)</b> NGUYEN ET AL	
	<b>Examin r</b> Terry D. Cunningham	<b>Art Unit</b> 2816	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2002.  
 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-73 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-46 and 48-73 is/are rejected.  
 7) ☒ Claim(s) 47 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 02/14/02 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Summary of changes in this action*

1. In the interview dated 03 February 2004, Applicant's representative argued concerning claims 43-52 being means-plus-function recitation under 35 U.S.C. § 112, sixth paragraph. As second, the "routing means" in the reference to Manning is a wire. Since a wire (disclosed by Manning) and a resistor (disclosed by Applicant) are not seen to be equivalents under *In re Donaldson* and since it is not seen obvious to modify a wire as resistor, there rejection is view thereof is hereby removed.

### *Title*

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

It is not seen that the amendment to the Title overcomes the objection. It is not understood how the operation of "compensation" per se can be an invention. It is suggested that --circuit-- be inserted following "Compensation".

### *Drawings*

The drawings are objected to because Fig. 2 should show element 114 as receiving  $V_{nom}$  to be consistent with Figs. 3 and 4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

Claims 53 and 63 are objected to as being informal.

In claim 53, line 6, "referenc" should be changed to --reference--.

Claim 63 is objected to because "ref erence" in line 9 should be --reference--.

Appropriate corrections for the above discussed objections are required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-5, 10-25, 29 and 32 are rejected under 35 U.S.C. § 112, first paragraph, as based on a disclosure which is not enabling. Since the claims recite that the “voltage driver” produces the “compensated voltage”  $V_{comp}$ , the “voltage driver” is hereby interpreted as the “Reference Voltage Driver” 114 of Fig. 2. Further, since there is no clearly recited connection between one of the “one or more components” and the “voltage driver”, it is not clear as to whether the “one or more components” includes element 120 of Fig. 2. Further, since dependent claims, e.g., claim 6, recite “a feedback component”, it would appear that the “one or more components” is not intended to include element 120. As a result, Feedback Receiver 120 of Fig. 2 is deemed critical or essential to the practice of the invention, but is not included in the claim(s). An arrangement lacking this feature is not enabled by the disclosure since it cannot be understood from the specification how the circuit will operate without such. *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

The interpretation of the claim as be modified upon reconsideration and responsive to the interview dated 03 February 2004. In the interview, Applicant’s representative stated that it isn’t required that the structure of claim 1, for example, necessarily be interpreted to include the “feedback component” of claim 6. If both the recited “voltage driver” and the “one or more

components” are not broadly interpreted to include the receiver 120, then claim 1 is lacking critical feature for the reasons stated above.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5, 10-25, 29, 32-42 and 68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-5, 10-25, 29, 32, 53-62 and 68, it is not understood how the claim circuit can operate without the above discussed critical features. In lines 7-8, there is no circuitry recited to provide the “feedback derived from the distributed voltage”. It is not understood how the apparatus can have a particular operation and not have the corresponding circuitry to provide that operation.

In claim 33, lines 15-19, the language therein is deemed misdescriptive. There is no support in the specification for the “increment/decrement counter” in addition to the “reference voltage driver”. Figures 3 and 4 expressly show that the “increment/decrement counter” 133 is part of the “reference voltage driver” 114.

Claims 34-42 are rejected for the reasons discussed above with claim 33.

In claims 53 and 68, there is no connection recited for the “memory storage cells”, thus it is not understood how the circuit can work.

Claims 54-59 are rejected as including the indefiniteness discussed above with claim 53.

In claim 60, it is not understood how the method can have the steps of “increasing” and “decreasing” when the claim fails to provide a step for --evaluating the distributed voltage relative to the nominal voltage--.

Claims 61-62 are rejected as including the indefiniteness discussed above with claim 60.

With respect to the indefiniteness rejections, Applicant remarks “the Office Action fails to cite any support in Applicant’s Specification for the assertions.” This requirement provided by Applicant is not understood. Each of the above discussed rejections states why the stated subject matter is indefinite and why such is not consistent with the specification. Thus, the requirement for the rejection is met.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-32, 43-46, 48-53 and 55-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manning (USPN 6,288,954) in view of Kajigaya et al. (USPN 5,426,616).

With respect to claims 1-32, the reference to Manning discloses, in Figs. 1 and 4, a circuit comprising: “one or data receivers (18 and 24 of Fig. 1 of Manning)”; and a “reference voltage driver (Vref of Manning)”. The reference to Manning discloses the “reference voltage driver” broadly and thus, does not disclose the specific detail recited therefor. Kajigaya et al. disclose, in Figs. 27 and 37, a specific “reference voltage driver” providing variable gain with high accuracy. This “reference voltage driver” is seen to include “a feedback receiver”, “a register (DEC1 and DEC2)” and a counter (CTRN and CTRB)”. Therefore, it would have been obvious for one skilled in the art to use the specific “reference voltage driver” of Kajigaya et al. for the broad

“reference voltage driver” of Manning for the expected results of variable gain with high accuracy.

With respect to claims 43-52, the combination would provide “a receiver means (18 and 20 of Manning)”; “feedback means (OA1, OA2 or VLS of Kajigaya et al.)”; “driver means (Q9, Q10, R10-R18 and Q58-Q65 or Q49, R1-R9 and Q41-Q48 or Q3 of Kajigaya et al.)”; “a nominal reference voltage (VRB, VRN or VLB)”; and “routing means (the connection between VL (Kajigaya et al.) and Vref (of Manning) and the conductors connecting Vref to 18 and 20 of Manning).

With respect to claims 53-62, clearly the above discussed combination to Manning in view of Kajigaya et al. will provide the recited method.

With respect to claims 63-73, the above combination discloses “a reference voltage driver (Vref of Manning and all of Figs. 27 and 37 of Kajigaya et al.)”; “a plurality of receivers (19<sub>0</sub>-18<sub>n</sub> and 20<sub>0</sub>-20<sub>n</sub> of Manning)”, all connected and operating similarly as recited by Applicant.

With respect to claims 45, 46, 56 and 71, the circuit of Fig. 33 (which controls the circuit of Fig. 27) of Kajigaya et al. would reasonably be considered to be a “register”.

With respect to claim 72, the circuit of Fig. 37 of Kajigaya et al. expressly shows counters CTRN and CTRB that control the circuit of Fig. 27.

Examiner has fully considered Applicant’s remarks for the above rejection and has not found them to be persuasive.

Applicant’s remarks merely make an accusation that the reference to Kajigaya et al. does not include a “feedback component”. However, one skilled in the art would readily recognize that Fig. 27 of Kajigaya et al. does in fact include two “feedback components”. One skilled in the art would readily recognize elements Q1, Q2, Q50, Q51 and Q52 (VLS) as an amplifier

wherein the inputs are at the gates of Q50 and Q51 and were the output is at the drain of Q50.

As seen, one “feedback component” would be Q3 which provides negative feedback.

Additionally, one skilled in the art would readily recognize elements Q7, Q8, Q55, Q56 and Q57 (OA1) as an amplifier wherein the inputs are at the gates of Q55 and Q56 and were the output is at the drain of Q55. As seen, another “feedback component” would be elements Q9, Q10, R10-R18 and Q58-Q65 which provides negative feedback.

In the interview dated 03 February 2004, Applicant’s representative argued concerning claims 43-52 being means-plus-function recitation under 35 U.S.C. § 112, sixth paragraph. However, Examiner contends that the elements discussed in the combination provide

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Allowable Subject Matter***

Claims 33-42 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.



Claim 47 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 54 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 33-42 would be allowable because the above combination, as well as the remaining cited prior art, fails to provide the specific combination wherein the “increment/decrement component” is responsive to the “feedback signal”.

Claims 47 and 54, would be allowable because the above combination, as well as the remaining cited prior art, fails to provide the specification combination wherein the conductors providing the distributed reference voltages are “impedance-matched”. While the conductors in the above combination would be similar, it is not seen that they are “impedance-matched”. This is clear because one that the “conductors” is in the Kajigaya et al. reference. There is no way to know if the conductors therein are the same as those in the reference to Manning.

#### ***Information Disclosure Statement***

The Information Disclosure Statement filed 29 August 2004 has been considered and attached hereto. However US Patent No. 5,999,021 has been withdrawn from the US Patent Database and is not available to the Examiner for consideration. It appears that the number should be 5,999,031 to Jang and has been so corrected.

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***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terry Cunningham whose telephone number is 571-272-1742.

The examiner can normally be reached on Monday-Thursday from 7:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is 703-308-0956.

TC  
February 14, 2004

  
Terry D. Cunningham  
Primary Examiner  
Art Unit 2816